

In the Specification:

Page 1, line 11, after "08/560,091," insert -- now Patent No. 5,805,140, --.

Page 1, line 13, after "08/756,745" insert -- now Patent No. 5,825,308, --.

Page 12, line 2, after "08/756,745" insert -- now Patent No. 5,825,308, --.

Page 19, line 31, after "08/736,161" insert -- now Patent No. 5,828,197, --.

Page 33, line 22, after "08/374,288" insert -- (now Patent No. 5,731,804) --.

Page 33, line 22, after "08/400,233" insert -- (now Patent No. 5,767,839) --.

Page 33, line 22, after "08/489,068" insert -- (now Patent No. 5,721,566) --.

Page 33, line 22, after "08/560,091" insert -- (now Patent No. 5,805,140) --.

Page 33, line 22, after "08/623,660" insert -- (now Patent No. 5,691,898) --.

Page 33, line 23, after "08/736,161" insert -- (now Patent No. 5,828,197) --.

In the Claims:

Claims that have been changed by this amendment are listed below.

Please cancel claims 1-46 without prejudice.

Please add the following claims:

³⁵ 47. (new) A force feedback interface device in communication with a host computer, the force feedback interface device comprising:

at least one sensor that detects a motion or position of a manipulandum of said force feedback interface device when manipulated by a user, wherein a location of a cursor displayed by said host computer is responsive to said manipulation of said manipulandum by said user;

at least one actuator operative to output forces to a user of said force feedback interface device; and

a force functionality button provided on said force feedback interface device and manipulatable by said user, wherein said force functionality button toggles the output of a force feedback sensation by said actuator when said cursor encounters a designated graphical object or region upon a graphical display of said host computer, said toggling based on said manipulation of said force functionality button by said user.

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48. (new) A force feedback interface device as recited in claim ³⁵47 wherein said force sensation is applied by said actuator when said force functionality button is depressed by said user.

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49. (new) A force feedback interface device as recited in claim ³⁰48 wherein said force feedback sensation is associated with a cursor crossing a window border.

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50. (new) A force feedback interface device as recited in claim 49 wherein said force sensation includes a force that resists a motion of said cursor through said window border.

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51. (new) A force feedback interface device as recited in claim ³⁵47 further comprising an indexing button provided on said force feedback interface peripheral, said indexing button enabling an indexing mode when depressed by said user.

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52. (new) A force feedback interface device as recited in claim ³⁵47 wherein said actuator is controlled by a local processor in response to signals received from said host computer.

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53. (new) A force feedback interface device as recited in claim ³⁶48 wherein said force feedback sensation is associated with a cursor crossing a border of an icon.

⁴²
54. (new) A force feedback interface device as recited in claim ⁴¹53 wherein said force feedback sensation is a resistive spring force resisting motion of said cursor into said icon.

⁴³
55. (new) A force feedback interface device as recited in claim ⁴²54 wherein said icon is selected by said cursor when said cursor moves into a predetermined threshold distance into said icon.

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56. (new) A force feedback interface device as recited in claim ⁴²54 wherein said spring force enables an isometric control mode, wherein an amount of penetration of the mouse against the spring force controls a speed of scrolling of a document displayed by said host computer.

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57. (new) A method for controlling a force feedback interface peripheral, said force feedback interface peripheral including a force functionality button, said method comprising:
providing a force feedback interface peripheral including at least one sensor and at least one actuator, said actuator operative to output forces to a user of said force feedback interface peripheral;

providing a button on said force feedback interface peripheral that can function as a force functionality button, said force functionality button manipulatable by said user;

enabling a cursor to be controlled on a host computer, the displayed location of said cursor being responsive to manipulation of a portion of said force feedback interface peripheral by said user; and

enabling said force functionality button to toggle the application of a force feedback sensation by said actuator when said cursor encounters a designated graphical object or region upon the graphical display of said host computer, said toggling based on said manipulation of said force functionality button by said user.

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~~58~~. (new) A method as recited in claim ⁴⁵~~57~~ wherein said force sensation is applied by said actuator when said force functionality button is depressed by said user.

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~~59~~. (new) A method as recited in claim ⁴⁶~~58~~ wherein said force feedback sensation is associated with a cursor crossing a window border.

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~~60~~. (new) A method as recited in claim ⁴⁷~~59~~ wherein said force sensation includes a force that resists a motion of said cursor through said window border.

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~~61~~. (new) A method as recited in claim ⁴⁵~~57~~ further comprising providing an indexing button on said force feedback interface peripheral, said indexing button enabling an indexing mode when depressed by said user.

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~~62~~. (new) A method as recited in claim ⁴⁵~~57~~ wherein said actuator is controlled by a local processor in response to signals received from said host computer.

⁵¹
~~63~~. (new) A method as recited in claim ⁴⁶~~58~~ wherein said force feedback sensation is associated with a cursor crossing a border of an icon.

⁵²
~~64~~. (new) A method as recited in claim ⁵¹~~63~~ wherein said force feedback sensation is a resistive spring force resisting motion of said cursor into said icon.

⁵³
~~65~~. (new) A method as recited in claim ⁵²~~64~~ wherein said icon is selected by said cursor when said cursor moves into a predetermined threshold distance into said icon.

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~~66~~. (new) A method as recited in claim ⁵²~~64~~ wherein said spring force enables an isometric control mode, wherein an amount of penetration of the mouse against the spring force controls a speed of scrolling of a document displayed by said host computer.

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67. (new) A force feedback interface device in communication with a host computer, the force feedback interface device comprising:

at least one sensor that detects a motion or position of a manipulandum of said force feedback interface device when manipulated by a user, wherein a location of a cursor displayed by said host computer is responsive to said manipulation of said manipulandum by said user;

at least one actuator operative to output forces to a user of said force feedback interface device; and

a first force functionality button provided on said force feedback interface device and manipulatable by said user, wherein manipulation of said first force functionality button by said user causes a first force functionality mode of said force feedback interface device to be active, wherein a force feedback sensation is output by said actuator when said cursor encounters a designated graphical object or region upon a graphical display of said host computer when said first force functionality mode is active; and

a second force functionality button provided on said force feedback interface device and manipulatable by said user, wherein manipulation of said second force functionality button by said user causes a second force functionality mode of said force feedback interface device to be active which is different from said first force functionality mode, wherein a force feedback sensation is output by said actuator when said cursor encounters a designated graphical object or region upon a graphical display of said host computer when said second force functionality mode is active.

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68. (new) A force feedback interface device as recited in claim 67 wherein said first force functionality mode is a pressure scrolling mode, wherein a spring force is output on said manipulandum opposing the movement of said cursor through a border of said designated graphical object or region, and wherein a rate of scrolling of an object is controlled by an amount of said movement of said cursor.

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69. (new) A force feedback interface device as recited in claim 67 wherein said first force functionality mode is a pressure clicking mode, wherein a spring force is output on said manipulandum opposing the movement of said cursor through a border of said designated graphical object or region, and wherein said designated graphical object or region is selected by said cursor when said cursor moves into a predetermined threshold distance into said designated graphical object or region.

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~~70~~. (new) A force feedback interface device as recited in claim ~~67~~⁵⁵ wherein

said first force functionality mode is a pressure scrolling mode, wherein a spring force is output on said manipulandum opposing the movement of said cursor through a border of said designated graphical object or region, and wherein a rate of scrolling of an object is controlled by an amount of said movement of said cursor; and

said second force functionality mode is a pressure clicking mode, wherein a spring force is output on said manipulandum opposing the movement of said cursor through a border of said designated graphical object or region, and wherein said designated graphical object or region is selected by said cursor when said cursor moves into a predetermined threshold distance into said designated graphical object or region.

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~~71~~. (new) A force feedback interface device as recited in claim ~~68~~⁵⁶ wherein said designated graphical object or region is a window.

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~~72~~. (new) A force feedback interface device as recited in claim ~~68~~⁵⁶ wherein said designated graphical object or region is an icon.